



FEMA

Brewery Adjusts After Earthquake Seismic Retrofitting to Avoid Disruption

Los Angeles, CA - Anheuser-Busch operates a large brewery just a few miles from the epicenter of the Jan. 17, 1994, Northridge Earthquake. The facility serves the company's markets throughout the Southwest and Pacific regions. Because it is in a high earthquake-hazard area, Anheuser-Busch initiated a risk reduction program at the brewery in the early 1980s.

A risk assessment of critical buildings and equipment was performed. Those with unacceptable levels of risk were seismically upgraded, without impacting daily operations.

Seismic reinforcements were designed for a number of buildings and the critical equipment contained within, including buildings housing beverage production and vats where the beer is stored and aged.

The Northridge Earthquake produced very strong ground motion, causing extensive damage in the immediate vicinity of the brewery. However, post-earthquake surveys conducted by the company's engineering consultants, indicated that none of the retrofitted structures sustained damage. On-site facilities of lesser importance to the business had not been strengthened and consequently sustained damage, requiring repairs. None of the vats which are essential to the brewery's operations, was damaged. The brewery was quickly returned to nearly full operations following minor cleanup, repairs, and restoration of the off-site water supply.

Anheuser-Busch conservatively estimates that had seismic strengthening not been performed, direct and business interruption losses at the brewery could have exceeded \$300 million. According to Anheuser-Busch, this is more than 15 times the actual cost of the loss control program.

Clearly, this loss control program paid for itself in the Northridge Earthquake event.

While this is but one example, the Anheuser-Busch case study indicates mitigation measures can strengthen corporate balance sheets.



Los Angeles County,
California



Quick Facts

Sector:

Private

Cost:

\$20,000,000.00 (Estimated)

Primary Activity/Project:

Retrofitting, Structural

Primary Funding:

Business Owner